THE HABITAT GROUPS OF NORTH AMERICAN BIRDS IN THE AMERICAN MUSEUM OF NATURAL HISTORY.

BY J. A. ALLEN.

Plates I-IV.

METHODS of exhibition in museums of natural history have greatly changed during the last twenty years. Previously it was nearly the universal custom to mount birds as single specimens, on stands or perches, the well-known T-perch sufficing for all perching birds, and flat stands for terrestrial birds, with no attempt to illustrate their habits or natural surroundings.

The American Museum of Natural History, in New York City was the first museum in this country to depart radically from this time-honored method, by direction of its late President, Morris K. Jesup. Early in 1887, twelve groups, illustrating the nesting habits of as many species of our common birds, were placed on exhibition, the cost of their preparation having been generously contributed by the late Mrs. Robert L. Stuart, widow of a former president of the Museum.1 The accessories for the groups were prepared by the late Mrs. E. R. Mogridge, of London and New York, whose admirable work at the South Kensington Museum had attracted Mr. Jesup's attention. Her methods of reproducing in facsimile the foliage and flowers that composed the principal accessories of these groups was known for a time only to Mrs. Mogridge and her brother, Mr. Mintern, who was her personal assistant in the work, but later she taught her methods to others, forming classes for this purpose, not only in New York but in other cities, where she was employed by different museums for the construction of similar groups. In this way the preparation of such exhibits was undertaken elsewhere, notably in Washington, Pittsburgh, Chicago, and Springfield (Mass.).

During the following ten or twelve years the number of bird groups at the American Museum increased to fifty or more. The

¹ Cf. Auk, IV, 1887, p. 271.

group method of exhibition was also extended to insects and to mammals, of which latter a number of groups illustrating the habits of species found near New York City were prepared.

Prior to 1893, the construction of the groups was directed by the late Jenness Richardson, Chief Taxidermist of the Museum, who not only designed them, but collected and assembled the materials.¹ Later, for some years, the work was carried on by his successor, Mr. John Rowley, whose skill as a preparator is widely recognized.

The first fifty bird groups illustrate the nesting habits and location of the nest of as many species of North American birds, mostly the common species, from Grebes to Thrushes. They include a few Hawks and Owls, and various water birds, among the latter a Labrador Duck group, containing five specimens of this rare and now extinct species.

The special subject of the present article is the new series of socalled 'Habitat Groups,' formally opened to the public on February 25, 1909, the occasion having been made a public function, under the patronage of Professor Henry Fairfield Osborn, President of the Museum, and Mr. John L. Cadwalader, one of the principal contributors to the 'North American Ornithological Fund,' a generous gift from a few members of the Museum which rendered possible the gathering and preparation of the material for these expensive groups. They number about twenty-five, and are constructed on a much larger scale and with a much broader purpose than the earlier groups mentioned above, they being intended to illustrate not only the nesting habits of the species shown, but also their haunts or 'habitats.' The area of these groups ranges from 60 to 160 square feet, to which is added a panoramic background, which in most cases merges insensibly into the group itself. The backgrounds are painted by skilful artists, generally from studies made at the actual site represented. They are thus, like the accessories among which the birds with their nests and eggs or young are grouped, accurate and realistic representations of the actual scenes in nature which the species had chosen as their nesting haunts. They thus possess a scenic and geographic value in addition to their ornithological interest. These landscapes naturally

¹ Cf. Auk, X, 1893, p. 307.

represent widely diversified types of country, since they include the famous Bird Rocks in the Gulf of St. Lawrence, several bird keys in the Bahamas, a cactus desert in Arizona, plains and badlands in the Middle West, alpine scenes in the Rocky Mountains, the Palisades and the Hackensack marshes near New York City, and other localities of special interest.

In connection with the recent formal opening of the Gallery of the Bird Hall, the Museum has issued a 'guide leaflet' to this series of 'habitat groups,' 1 containing a full-page half-tone illustration of each, from photographs, and a transcript of the descriptive group labels. On this brochure is largely based the following account of these notable groups, which form a striking feature of the Museum's recent remarkable progress in placing before the public attractive and instructive exhibits in many lines of research. They are here given in the order of sequence in the hall, beginning at the right (southeast corner of the gallery).

Summer Bird-life of Cobb's Island, Virginia. Background by Walter Cox. Birds by H. C. Denslow.—Cobb's Island, off the coast of Virginia, is a shell-strewn sand-bar, seven miles long and about the same distance from the mainland, and thus affords ideal conditions as a breeding resort for certain kinds of water birds, as Terns of different species, Black Skimmers, Oyster-catchers and Plovers, while the adjoining marshes on its western border are the favorite nesting places of the Clapper Rail.

This group contains 63 birds, representing seven species. The scene is a sandy beach, with oyster and other sea shells, interspersed with tufts of the coarse grass characteristic of such beaches. The background is a view looking seaward, the whole forming a well-blended shore scene. The Least Terns, which formerly bred here in thousands, and are introduced into the group, were practically exterminated some years since, when 1200 were killed in a single day for millinery purposes, and the island was nearly depopulated of bird life.

¹ The Habitat Groups of North American Birds in the American Museuum of Natural History. By Frank M. Chapman, Curator of Ornithology. No. 26 of the Guide leaflets of the American Museum of Natural History. Edmund Otis Hovey, Editor. New York. Published by the Museum, February, 1909.—8vo, pp. 48, with colored frontispiece (Wild Turkey), and a half-tone illustration of each group, from photographs.

Duck Hawk on the Palisades. Background by Hobart Nichols. — The nest is on a shelf of a cliff, and contains down-covered young; one of the old birds is approaching the nest bearing in its talons a domestic pigeon. The locality is the western shore of the Hudson, at Englewood, New Jersey, and the outlook is northward from the 'Gorge,' overlooking the river.

August Bird-Life of the Hackensack Meadows. Background by Bruce Horsfall. Birds by E. W. Smith.— The locality is the marshes of the Hackensack River, near Little Ferry, New Jersey. The view is westward, across the marshes. Cattails, wild rice, reeds, sagittarias and other aquatic plants make up the foreground, which is enlivened by the rose-colored flowers of the marsh-mallow and the scarlet of cardinal flowers. The purpose of the group is to illustrate a night resort of Swallows, and the feeding grounds of Reedbirds, Red-winged Blackbirds, and other species which visit the marshes in large numbers to feed on the wild rice. The birds are perched on the cattails and wild rice, with rails and a pair of Wood Ducks in the immediate foreground.

Wild Turkey Group. Background by Bruce Horsfall. Birds by H. C. Denslow.— A pair of old birds with their brood of young, in an opening in a forest in the mountains of West Virginia.

Florida Great Blue Heron. Background by Bruce Horsfall. Birds by H. C. Denslow.— A group of adult birds and half-grown young in the tree-tops of a Florida heronry, with characteristic surroundings.

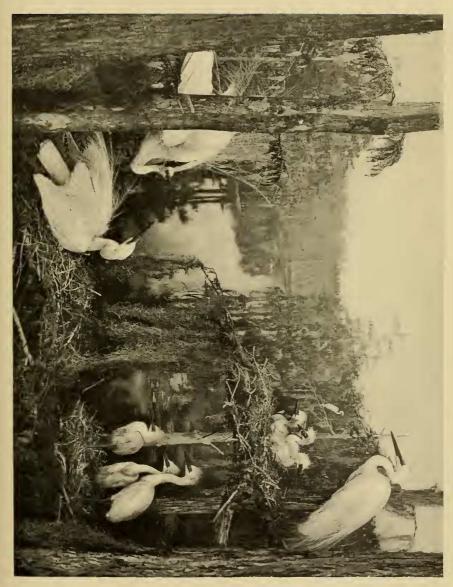
The Anhinga or Water Turkey. Background by Bruce Horsfall. — Nests with eggs, nests with young birds at different stages of growth, and several old birds of both sexes, with one swimming submerged in the foreground. The scene is a lake nearly enclosed with cypress and palmettoes, with a distant vista showing the characteristic scenery of the lake region near St. Lucie, Florida. 'Bonnets' (yellow pond-lilies) give color to the immediate foreground.

Sandhill Crane Group. Background by Bruce Horsfall. Birds by Herbert Lang.— A pair of birds, with their nest and eggs, in a water-filled depression on the Kissimmee Prairies, Florida; background, a broad view of the prairies; hammocks and palm trees in the distance.



DUCK HAWK ON THE PALISADES.





THE AMERICAN EGRET IN A SOUTH CAROLINA CYPRESS SWAMP.



Brown Pelican, Pelican Island, Florida. Background by Bruce Horsfall. Birds by E. W. Smith.—A large group, containing seven old birds, nine young in various stages of growth, and several nests with eggs, some placed on the ground, others in mangrove bushes. It illustrates the manner in which the young are fed with predigested food. The background shows numerous birds in the distance, in various positions, some of them sitting on their nests, others walking on the sandy beach or swimming in the water. The view is toward the low mainland shore, with palm trees as a prominent feature of the distant landscape.

The American Egret in a South Carolina Cypress Swamp. Background by Bruce Horsfall. Birds by Herbert Lang.— Several old birds in fine feather, with nests containing young in various stages of development, in moss-draped trees at a height of forty feet from the ground. The sketches for the landscape were made from the trees at this altitude, to secure the desired effect. A creek in the midview gives an opportunity for water and forest effects, which include Egrets perched in the nearer trees.

A Cactus Desert and its Bird-life. Background by Bruce Horsfall. Birds by H. C. Denslow.— The locality is near Tucson, Arizona. The birds introduced — about 50 specimens, representing 20 species — are those characteristic of a desert environment, and include the Western Mockingbird, Palmer Thrasher, Cactus Wren, Road-runner, Gambel and Scaled Quails, three species of Doves, the Texas Nighthawk, Vermilion Flycatcher, Arizona Crested Flycatcher, Gilded Flicker, Arizona Cardinal, House Finch, Blackthroated Sparrow, Verdin, Phainopepla, and Plumbeous Gnatcatcher. The vegetation comprises a number of the most striking forms of caeti, with mesquites and acacias. The background is a typical desert scene, with the beautiful Santa Catalina Mountains in the distance.

California Condor Group. Background by Carlos Hittell.— The site is in Piru Cañon, Ventura County, California, and affords an opportunity for striking scenic effects in the background. The Condor is represented by a lone bird and a single egg.

Brandt Cormorant Group. Background by Carlos Hittell. Birds by Herbert Lang.— An assemblage of six adult birds, a nest with eggs, and three broods of young in different stages of growth.

The scene is a rocky islet off the coast of Monterey, California, a portion of which is here reproduced, with an ocean view for a background.

Summer Bird-life of an irrigated portion of the San Joaquin Valley, California. Background by Carlos Hittell. Birds by H. C. Denslow.— As the title implies, the site is an artificially flooded area on the San Joaquin River, which forms a resort for the nesting of a considerable variety of wading and swimming birds. The 15 species represented in the group, which has an area of 8 by 20 feet, include Avocets, Stilts, Killdeer Plovers, Black and Forster Terns, Black-crowned Night Herons, White-faced Glossy Ibises, Coots, Mallards, Cinnamon Teals, Pintail Ducks, Ruddy Ducks, and Fulvous Tree Ducks. The pools of water and aquatic plants merge effectively into the background. The view is westward, over marshes and fields, to the Coast Range, prominent in the distance.

A Flamingo Colony in the Bahamas. Background by L. A. Fuertes (birds) and Carlos Hittell (landscape). Birds by Herbert Lang.—Scene, a key in the Bahamas; theme, a Flamingo city. The size of the group is 8 by 20 feet, in which are placed 16 old birds, and 18 young birds of different ages, interspersed among a dozen or more of the close-set, raised mud nests and small mangrove bushes, so arranged that birds, nests and mangroves merge imperceptibly into the background of an immense colony of Flamingoes, the whole representing, with wonderful realism, an actual "Flamingo city." The pink color and the outlines of the birds gradually fade out in the distance. The sea and a distant green islet studded with palms form the horizon line, while a long file of flying birds stretching across the sky illustrates the manner of flight of these great ungainly but beautifully tinted creatures. The great variety of positions given to the birds are from photographs from life.

Boobics and Man-o'-War Birds. Background by Bruce Horsfall. Birds by Herbert Lang.— The locality is Cay Verde, a coral islet in the Bahamas, some two hundred and thirty miles southeast of Nassau. The common West Indian Booby and the graceful Man-o'-War Bird are well-represented by both young and adult birds, the former species nesting on the ground, the latter in dense growths of bushes ('sea-grape') and cactuses. The inflated